IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

OHZEKI : Group Art Unit: 1752

Application No. 10/635,486 : Examiner: Thorl Chea

Filed: August 7, 2003

For: PHOTOTHERMOGRAPHIC MATERIAL

DECLARATION UNDER 37 C.F.R. §1.132

Commissioner of Patents and Trademarks

Alexandria, VA 22313-1450

Sir:

I, Tomoyuki Ohzeki, do declare and state as follows:

I graduated from Waseda University with a Master's Degree in Science and Engineering, Department of Chemistry in March 1988;

I joined Fuji Photo Film Co., Ltd. in April 1988, and since 1988, I have been engaged in research and development in the field of silver halide emulsions and photothermographic materials at Ashigara Laboratories (presently Medical Systems Development Center);

I am familiar with the Office Action of February 22, 2006, and understand that the Examiner has rejected Claims 1 to 6 and 8 to 20 as being unpatentable over the combination of prior art references.

I am the inventor of the invention. I make the following statement

in order to clarify the advantages of the present invention.

Experiment A:

Photothermographic material samples were prepared in the same manner as sample 12 prepared in Example 1 described in Kawahara, except that the silver iodide content in the silver halide, the average particle size of the silver halide, and the coating amount of the silver halide per 1 mol of the organic silver salt were changed to the values shown in Table A below. The photothermographic material samples obtained were exposed and thermally developed in the same manner as in Example 1 described in the specification of the present application. Then, the sensitivity and the fog of the samples were measured in the same manner as in Example 1 described in the present application. The results are shown in Table A below.

As is clear from the results shown in Table A, it is understood unexpectedly superior effects (i.e., low fogging and significantly high Dmax) were produced when the following conditions described in newly added claim 21 are satisfied: (i) the silver iodide content is from 80 to 100 % by mol; (ii) the average particle size of the silver halide is from 5 to 50 nm; and (iii) the coating amount of the silver halide is from 0.5 to 15 % by mol per 1 mol of the organic silver salt. It is further realized that a smaller coating amount of the silver halide leads to higher sensitivity provided the silver iodide content and the average particle size are constant. This tendency is opposite to the tendency observable with the silver halide having a high silver iodide content used in Kawahara in which an increase in sensitivity is achieved by increasing the coating amount of the silver halide. Therefore, the effects

produced by the photothermographic material of claim 21 are considered to be unexpected from the prior art.

Table A

Sample No.	Silver Halide	Average Particle Size	Silver Halide/Organic Silver Salt	Fog	Sensitivity	Printout (ΔDmin)	Dmax	Remarks
1	AgBr:AgI=98:2	68nm	0.5 % by mol	0.26	85	0.13	2.0	Comp. Ex.
2	"	"	2 % by mol	0.28	91	0.21	2.2	Comp. Ex.
3	"	"	10 % by mol	0.31	97	0.35	2.3	Comp. Ex.
4	"	"	15 % by mol	0.35	101	0.42	2.5	Comp. Ex.
5	"	"	21 % by mol	0.42	102	0.51	2.7	Comp. Ex.
6	"	"	32 % by mol	0.45	105	0.61	2.8	Comp. Ex.
7	AgBr:AgI=20:80	50nm	0.5 % by mol	0.23	95	0.01	3.5	Claim 21
8	"	"	2 % by mol	0.22	86	0.01	3.5	Claim 21
9	"	"	10 % by mol	0.22	72	0.01	3.4	Claim 21
10	"	"	15 % by mol	0.21	58	0.02	3.3	Claim 21
11	"	"	21 % by mol	0.21	28	0.03	2.7	Comp. Ex.
12	"	"	32 % by mol	0.20	12	0.03	2.5	Comp. Ex.
13	AgBr:AgI=20:80	5nm	0.5 % by mol	0.21	32	0.00	4.5	Claim 21
14	"	"	2 % by mol	0.21	20	0.00	4.5	Claim 21
15	"	"	10 % by mol	0.20	11	0.00	4.3	Claim 21
16	"	"	15 % by mol	0.20	9	0.01	4.1	Claim 21
17	"	"	21 % by mol	0.19	5	0.01	3.7	Comp. Ex.
18	"	"	32 % by mol	0.19	2	0.01	3.5	Comp. Ex.
19	AgI	50nm	0.5 % by mol	0.21	100	0.00	3.8	Claim 21
20	"	"	2 % by mol	0.21	91	0.00	3.7	Claim 21
21	"	"	10 % by mol	0.20	76	0.01	3.7	Claim 21
22	"	"	15 % by mol	0.19	61	0.01	3.6	Claim 21
23	"	"	21 % by mol	0.19	29	0.02	3.2	Comp. Ex.
24	"	"	32 % by mol	0.18	13	0.03	3.0	Comp. Ex.

25	AgI	5nm	0.5 % by mol	0.19	34	0.00	4.6	Claim 21
26	"	"	2 % by mol	0.19	21	0.00	4.6	Claim 21
27	"	"	10 % by mol	0.18	12	0.00	4.4	Claim 21
28	"	"	15 % by mol	0.18	9	0.00	4.4	Claim 21
29	"	"	21 % by mol	0.17	5	0.01	4.1	Comp. Ex.
30	"	"	32 % by mol	0.17	2	0.01	3.9	Comp. Ex.

The sensitivity values shown in Table A are relative values assuming that the sensitivity of sample 19 be 100. The use of the silver halide having a silver iodide content of 2 mol% used in Kawahara resulted in inferior fogging property, printout, and Dmax. When the silver halide having a silver iodide content of 2 mol% used in Kawahara is used, the dependency of the sensitivity on the silver halide quantity is small, and a greater silver halide quantity resulted in slightly higher sensitivity and slightly higher Dmax (conventional knowledge). When the silver halide having a silver iodide content of 2 mol% used in Kawahara is used, a greater silver halide quantity resulted in inferior fog and inferior printout (conventional knowledge). When the silver halide having a high silver iodide content according to claim 21 of the present application is used, a smaller silver halide quantity unexpectedly resulted in higher sensitivity, higher Dmax, and better printout property.

Conclusion: The sensitivity, Dmax, fogging, and the printout property are unexpectedly improved according to the invention described in claim 21.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

DATE: July 20, 2006

Tomoyuki Ohzeki

Tomoyuki Ohzeki